Appl. No. 10/016,455 Amdt. Dated April 30, 2004 Reply to Office action of February 2, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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Claims 1-21 (Canceled)

Claim 22 (Currently Amended): An electronic component mounting apparatus for sucking and holding an electronic component and mounting the electronic component into a predetermined mounting position, said apparatus comprising:

an electronic component supply device for supplying a plurality of electronic components to supply a desirable one of said electronic components;

a sucking nozzle for removably sucking and holding said electronic component; an attachment head for holding said sucking nozzle to rise and fall freely; a head moving device for moving said attachment head in a horizontal plane; and a viscous fluid transfer device for forming a flat viscous fluid transfer surface for transferring viscous fluid to a connecting terminal of an electronic component and for uniformly flattening a viscous fluid on a transfer unit to form a flat viscous fluid transfer surface,

wherein said viscous fluid transfer device including a transfer unit having a planar pan surface for putting a viscous fluid thereon, a squeegee unit having a stirring squeegee shaped planar for stirring said viscous fluid put on said pan surface, a leveling squeegee shaped planar for uniformly flattening said viscous fluid which is stirred, and a squeegee fixing member serving to separate said stirring squeegee and said leveling squeegee from each other and to fix them in parallel, wherein both ends of said fixing member are supported pivotally and rockably above said transfer unit, a transfer unit moving mechanism for reciprocating said transfer unit such that said stirring squeegee and said leveling squeegee are relatively moved each other along the planar pan surface of said transfer unit, and a squeegee driving mechanism for rocking said squeegee unit such that said stirring squeegee approaches said pan surface on going path of said stirring squeegee and said leveling squeegee,

wherein said electronic component sucked by said electronic component supply member is moved onto said transfer unit of said viscous fluid transfer device and a terminal portion of said electronic component is immersed in said viscous fluid transfer surface by said up-down operation of said attachment head, thereby transferring said viscous fluid to said electronic component.

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Claim 23 (Currently Amended): The electronic component mounting apparatus according to claim 22,

wherein said attachment head includes:

a rubber pad provided in a tip portion of said sucking nozzle and having a sucking surface which can be inclined freely and can be expanded and contracted freely in a direction of suction; and

a sucking attitude correcting member provided around said rubber pad in which a tip portion has a contact face to contact on a rear face of said electronic component during said suction of the electronic component.

Claim 24 (Original): The electronic component mounting apparatus according to claim 23,

wherein said sucking attitude correcting member is constituted of a pair of rod bodies provided on both sides of said rubber pad.

Claim 25 (Original): The electronic component mounting apparatus according to claim 23,

wherein said contact face of said sucking attitude correcting member is formed to be inclined from a horizontal plane.

Claim 26 (Original): The electronic component mounting apparatus according to claim 22 further comprising:

a multi-head having a plurality of said attachment heads arranged in parallel, and wherein said transfer unit of said viscous fluid transfer device including a pan surface having a greater width than that of said multi-head.

Claim 27 (Original): The electronic component mounting apparatus according to claim 26,

wherein the transfer unit includes a pan surface having a greater width than a double of the width of the multi-head.

Claim 28 (Currently amended): An electronic component mounting method of mounting an electronic component in a predetermined mounting position, comprising the steps of:

sucking an electronic component by an attachment head having a sucking nozzle, while uniformly flattening a viscous fluid on a transfer unit having a planar pan surface to form a viscous fluid transfer surface;

moving the sucked attachment head of the electronic component to an upper position of the viscous fluid transfer surface;

bringing down the sucking nozzle until a terminal portion of the electronic component is immersed in the viscous fluid transfer surface;

raising the sucking nozzle after transferring the viscous fluid to the electronic component and moving the attachment head to a predetermined mounting position; and

bringing down the sucking nozzle in the mounting position, thereby mounting the electronic component,

wherein a height of said viscous fluid transfer surface of said transfer unit is detected before the viscous fluid is transferred to the electronic component, and an amount of bringing down the sucking nozzle of the attachment head is set according to the detected height of said viscous fluid transfer surface of said transfer unit.

Claim 29 (Original): The electronic component mounting method according to claim 28,

wherein said sucking nozzles of a multi-head including a plurality of attachment heads arranged in parallel are controlled to be brought up and down at the same time.

Claim 30 (Cancelled)

Claim 31 (Original): The electronic component mounting method according to claim 28,

wherein said viscous fluid transfer surface is formed in a predetermined thickness on said transfer unit and said terminal portion of said electronic component is pushed to contact on the pan surface of the transfer unit, thereby transferring the viscous fluid having the predetermined thickness to the electronic component.

Claim 32 (Currently amended): The electronic component mounting method according to claim 28,

wherein the viscous fluid is transferred to a second electrical component, and wherein said second electrical component is stacked and mounted on a rear face opposite to a mounting surface side of a first electronic component which has already been mounted on a circuit board.

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Claim 33 (Original): The electronic component mounting method according to claim 32, further comprising the steps of:

detecting a reference mark for alignment provided on a rear face of said first electronic component,

correcting a mounting position of said second electronic component by setting said reference mark as a reference.

Claims 34-36 (Cancelled).